

In re Patent Application of:

PHILLIPS ET AL.

Serial No. 10/666,318

Filed: 09/18/2003

Amendments to the Claims

1. (currently amended) An optical structure comprising:

a light transmissive substrate having a first surface and an opposing second surface, the second surface having a surface relief pattern formed thereon;

a patterned layer of a reflective material applied onto portions of the surface relief pattern of the light transmissive substrate, such that some portions of the surface relief pattern are covered by the reflective material, and other portions of the surface relief pattern are exposed; and

an optically active color-shifting coating underlying the patterned layer and exposed portions of the surface relief pattern, wherein the color shifting coating has a visibly changing color with a change in viewing angle or a change of angle of incident light.

2. (currently amended) An optical structure as defined in claim 1, ~~wherein the optically active coating has color shifting optical properties~~ wherein the color shifting coating includes a reflective aluminum layer.

3. (original) An optical structure as defined in claim 1, wherein the optically active coating is a thin film optical stack.

4. (original) An optical structure as defined in claim 3, wherein the thin film optical stack includes:

a partially absorbing/partially transmissive layer;

a dielectric layer; and

a reflector layer.

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5. (original) An optical structure as defined in claim 1, wherein the optically active coating contains flakes that add desirable optical effects to the exposed portions of the surface relief pattern.

6. (original) An optical structure as defined in claim 5, wherein the flakes are a thin film optical stack including:
a partially absorbing/partially transmissive layer;
a dielectric layer; and
a reflector layer.

7. (original) An optical structure as defined in claim 1, wherein the optically active coating has an index of refraction substantially matched to the index of refraction of the light transmissive substrate, so that the optical effects of the surface relief pattern will not be exhibited in the exposed portions of the surface relief pattern.

8. (original) An optical structure as defined in claim 5, wherein the optically active coating has an index of refraction substantially matched to the index of refraction of the light transmissive substrate, so that the optical effects of the surface relief pattern will not be exhibited in the exposed portions of the surface relief pattern.

9. (original) An optical structure as defined in claim 1, wherein the patterned layer of reflective material is opaque.

10. (original) An optical structure as defined in claim 1, wherein the patterned layer of reflective material is applied so as to form a pictorial design.

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11. (original) An optical structure as defined in claim 1, wherein the patterned layer of reflective material is applied so as to form alphanumeric characters.

12. (original) An optical structure as defined in claim 1, wherein the patterned layer of reflective material is applied so as to form a graphical design.

13. (original) An optical structure as defined in claim 1, wherein the surface relief pattern is selected from the group consisting of a diffraction grating pattern, holographic image pattern, corner cube reflector, zero order diffraction pattern, moiré pattern, and combinations thereof.

14. (currently amended) An optical structure comprising:

a light transmissive substrate having a first surface and an opposing second surface, the second surface having a surface relief pattern formed thereon;

a patterned layer of a reflective material applied onto portions of the surface relief pattern of the light transmissive substrate, such that some portions of the surface relief pattern are covered by the reflective material, and other portions of the surface relief pattern are exposed; and

a coating underlying the patterned layer and exposed portions of the surface relief pattern having an index of refraction substantially matched to the index of refraction of the light transmissive substrate, so that the optical effects of the surface relief pattern will not be exhibited by the exposed portions of the surface relief pattern, wherein the coating is a color-shifting coating having a visibly changing

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color with a change in viewing angle or a change of angle of
incident light.